

Material Safety Data Sheet

MSDS Date: 2/15/11

110467320-5

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: AS-7320

Synonyms: Cooling Water Treatment

Manufacturer/Supplier:

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, OH 44012

00084859



CHEMICAL, AS-7320

PO: 300538462

U/I: EA

Customer Information Number: 440-933-9442

Emergency 24-Hour Health/Environmental Phone: 216-973-6118

2. CHEMICAL COMPOSITION

Component	CAS Number	Wt%	Hazardous
Acrylate Copolymer	Proprietary	<51	No
Sodium Hydroxide	1310-73-2	<7	Yes
Water	7732-18-5	Balance	No

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Clear to light amber liquid, mild odor

WARNING! May Cause Eye and Skin Irritation. Do not inhale Vapors or Mists. Do Not Ingest.

HMIS Rating: Health - 1 Fire - 0 Reactivity - 0

0- Minimal; 1- Slight Hazard; 2- Moderate Hazard;
3- Serious Hazard; 4- Severe Hazard

TARGET ORGANS - Eyes, Skin, Gastrointestinal, Pulmonary system, Mucous membranes

ROUTES OF ENTRY INTO BODY - Inhalation, Ingestion, Skin or Eye Contact

SIGNS AND SYMPTOMS OF EXPOSURE - Eye and skin irritation, blurry vision, respiratory irritation, coughing, nausea, vomiting, headache

OSHA Hazard Communication

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Applied Specialties, Inc.

AS-7320

33555 Pin Oak Parkway, Avon Lake, OH
44012

P: 440-933-9442 F: 440-933-9439



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10. STABILITY AND REACTIVITY

Stability	Stable under normal temperatures and pressures. Thermal decomposition is dependent on time and temperature
Hazardous Polymerization	Will not occur
Incompatibilities	Strong oxidizers
Hazardous Decomposition Products	Carbon monoxide and carbon dioxide

11. TOXICOLOGICAL INFORMATION

No Data

12. ECOLOGICAL INFORMATION

ECOTOXICITY

LC₅₀ Daphnia magna 48 h > 1,500 mg/l

13. DISPOSAL CONSIDERATIONS

PRODUCT RESIDUES

Prohibition – Do not discharge to sewer

Destruction – Dispose in accordance with federal, state, and local regulations. Various options may be available

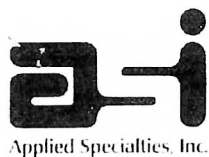
USED PACKAGING

Decontamination – Empty packaging thoroughly rinse with water before disposal

Destruction – Dispose in accordance with federal, state, and local regulations. Various options may be available

14. TRANSPORT INFORMATION

PROPER SHIPPING NAME	Industrial Water Treating Compound
HAZARD CLASS	Not Regulated
IDENTIFICATION NUMBER	NMFC 50227 SUB1
LABEL REQUIRED	None



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7. HANDLING AND STORAGE

HANDLING

Wear appropriate protective equipment (See Section 8).

STORAGE

Keep container tightly closed. Keep away from heat, and sunlight. Storage temperature range: 5-40°C.

Incompatible materials: Oxidizers
Recommended containers: Coated steel, stainless steel, and plastic materials, e.g. polyethylene.
Containers not recommended: Carbon steel, aluminum, and its alloys.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS

In applications where the product will be exposed to elevated temperatures, use local ventilation to remove potential decomposition products when needed.

PERSONAL PROTECTION

Respirator: Only necessary in fire fighting situations or if sensitivity has developed
Eye Protection: Wear safety glasses with side shields or goggles
Gloves: Wear Neoprene or Nitrile gloves
Clothing: Normal working clothing is adequate
Other: Eye wash and safety showers, practice good industrial hygiene

Recommendations: ESCAPE & FIRE FIGHTING-Self-contained breathing apparatus with a face-piece operated in pressure demand or other positive-pressure mode.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear to light amber liquid
ODOR	Mild odor
BOILING POINT	Not Determined
FLASH POINT	Not Applicable
VAPOR PRESSURE	Not Determined
SPECIFIC GRAVITY	1.16 ± 0.025
PRODUCT pH (neat)	8.0 – 12.4
SOLUBILITY IN WATER	Completely miscible



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HAZARD CLASS	Not Regulated
IDENTIFICATION NUMBER	NMFC 50227 SUB1
LABEL REQUIRED	None

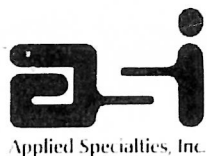
Applied Specialties, Inc.

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AS-7320

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15. REGULATORY INFORMATION

Federal Regulations

OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

☒ Hazardous ☐ Non-Hazardous

None of the chemicals in this product are considered highly hazardous by OSHA.

CERCLA/SUPERFUND (40 CFR 117, Section 302)

None Listed

SARA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355)

This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

SARA HAZARD CATEGORIES (40 CFR 370, Sections 311, 312)

☒ Acute ☐ Chronic ☐ Fire ☐ Pressure ☐ Reactive ☐ None

SARA TOXIC SUBSTANCES (40 CFR 372, Section 313)

None Listed

US TOXIC SUBSTANCES CONTROL ACT/INVENTORY STATUS (TSCA)

All components are in compliance

RCRA STATUS

Not regulated

NTP, IARC, OSHA, & ACGIH STATUS

None of the components are listed

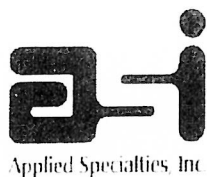
State Regulations

PENNSYLVANIA RIGHT-TO-KNOW INFORMATION:

Component	CAS Number
Acrylate Copolymer	Proprietary
Sodium Hydroxide	1310-73-2
2-propenoic acid sodium salt polymer with 2-propenamide	25085-02-3
Water	7732-18-5

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

Component	CAS Number
Acrylate Copolymer	Proprietary
Sodium Hydroxide	1310-73-2
2-propenoic acid sodium salt polymer with 2-propenamide	25085-02-3
Water	7732-18-5



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CALIFORNIA PROPOSITION 65:

This product does contain toxic chemical(s) currently on the California list of known carcinogens and reproductive toxins

Acrylamide

79-06-1

Trace quantity

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that "clear and reasonable warning" be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

16. OTHER INFORMATION

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

Revision 4 / Supersedes 6/22/10 / j. jayne

Revisions Section 9. footnote

Applied Specialties, Inc.
33555 Pin Oak Parkway
on Lake, Ohio 44012

XP-36P

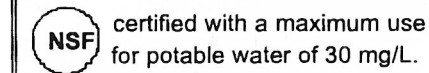
05094XP36P-5
April 4, 2005
Telephone (440) 933-9442
Emergency: (216) 973-6118

MATERIAL SAFETY DATA

SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR
SYNONYMS

XP-36P
LIQUID PHOSPHATE INHIBITOR



SECTION 2 INGREDIENTS AND HAZARDS

<u>COMPONENT</u>	<u>CAS. NUMBER</u>	<u>TWA/CEILING</u>	<u>REFERENCE</u>
Sodium Polyphosphate	66915-31-1		

Emergency Overview: Clear, colorless liquid with a mild odor. May cause slight irritation of eyes and skin.

SECTION 3 ENVIRONMENTAL INFORMATION

OSHA STATUS This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard

TSCA STATUS All components are listed
CERCLA REPORTABLE QUANTITY No components listed

SARA TITLE III:

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) No components are listed

SECTION 311/312 (HAZARDOUS SUBSTANCES)

Classification Under Section 311/312 of SARA (40 CFR 370): Acute (No) Chronic (No) Fire (No) Reactive (No) Pressure (No)

SECTION 313 (TOXIC CHEMICALS) No components are listed
RCRA STATUS Not regulated as supplied
NTP & IARC STATUS No components listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)	
HEALTH - 1	0 MINIMAL
FIRE - 0	1 SLIGHT HAZARD
REACTIVITY - 0	2 MODERATE HAZARD
	3 SERIOUS HAZARD
	4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

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XP-36P

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SECTION 4 HEALTH HAZARD AND PROTECTION DATA

TARGET ORGANS

Eyes Skin Gastrointestinal System

ROUTES OF ENTRY INTO BODY

Skin Or Eye Contact, Ingestion

SIGNS AND SYMPTOMS OF EXPOSURE

Slight Eye Irritation, Tearing or Blurry Vision, Slight Skin Irritation, Dermatitis, Gastrointestinal Irritation: Nausea, Vomiting & Diarrhea. Ingestion of Large Amounts may result in Shock-Like State

PROTECTIVE EQUIPMENT REQUIRED:

Employees should be provided with and required to use long sleeved shirts and trousers, gloves, splash goggles or safety and other appropriate protective clothing to prevent skin contact. Employees should be required to use splash-proof safety goggles where the material may contact the eyes. Use good industrial hygiene practices. Clothing wet with product should be placed in a closed container until provisions are made for it to be laundered. Any clothing that becomes wet with the material should be removed immediately and not re-worn until the clothing has been properly cleaned. **RESPIRATOR SELECTION** - Use only in well ventilated areas. Where the potential for excessive exposures exists which cannot be controlled by mechanical means, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. **ESCAPE & FIRE FIGHTING** - Use self-contained breathing apparatus with a face-piece operated in pressure demand or other positive-pressure mode.

FIRST AID

SKIN CONTACT: Wash or shower with soap and water to remove any chemical from skin. Contaminated clothing should be removed and washed before it is reused. Get medical attention for irritation.

EYE CONTACT: Flush the eyes immediately with large amounts of water for at least 15 - 30 minutes, lifting the lower and upper lids occasionally. Get **MEDICAL** attention for any signs of irritation. Contact lenses should not be worn when working with this substance or any other chemical.

INHALATION: If a person breathes in large amounts of product mist, move the person to fresh air. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

INGESTION: Never give anything by mouth to an unconscious person. If a person swallows product, give 2 glasses of water. Induce vomiting. Get **MEDICAL ATTENTION immediately**. Vomiting may occur spontaneously. Do not leave victim unattended. To prevent aspiration of swallowed product lay victim on side with head lower than waist.

Note to Physician: Ingestion of large quantities of phosphate salts may cause an osmotic catharsis resulting in diarrhea and abdominal cramps.

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XP-36P

05094XP36P-5
April 4, 2005
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SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Clear colorless liquid; mild odor.
BOILING POINT	> 212.0 °F (>100.0 °C)
MELTING POINT	Not applicable
FLASH POINT	Not applicable
VAPOR PRESSURE	Not determined
SPECIFIC GRAVITY	1.35 +/- 0.02 g/ml
PRODUCT pH	5.50 +/- 0.50 standard pH units
SOLUBILITY IN WATER	Complete

SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous polymerization will not occur
Hazardous thermal decomposition products may include oxides of sodium and oxides of phosphorus.
Keep containers closed when not in use.
Store containers with labels visible.

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:

Not Combustible. Use extinguishing media suitable for surrounding fire such as water, fog, alcohol foam or CO₂/ dry chemical extinguishers. Use water spray to keep containers cool.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:

Keep material out of water sources and sewers.

PERSONAL DANGER SITUATION PROTECTION:

Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate). Wear boots, protective gloves and gas-tight goggles and NIOSH/MSHA approved self contained breathing apparatus.

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Avon Lake, Ohio 44012

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SECTION 9 SPILL, LEAK AND DISPOSAL PROCEDURES

Persons not wearing protective equipment and clothing should be restricted from spill areas until clean-up has been completed. If XP-36P is spilled, take the following steps:

- 1 - Ventilate the spill area. Confine spill
- 2 - Collect spilled material using an approved liquid vacuum for recycling.
- 3 - Apply an absorbing compound to any residual material and shovel into a disposal drum.
- 4 - Discard any vacuumed material and the absorbent material in accordance to all FEDERAL, STATE, AND LOCAL REGULATIONS.

NOTE: **DO NOT** wash or pour XP-36P into any surface waters or streams or directly into sewers.

SECTION 10 SHIPPING AND TRANSPORTATION DATA

PROPER SHIPPING NAME	INDUSTRIAL WATER TREATMENT COMPOUND
HAZARD CLASS	NOT REGULATED
IDENTIFICATION NUMBER	NMFC 50227 SUB1
LABEL REQUIRED	NONE

H.García-Muñoz

<p>This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.</p>

Applied Specialties, Inc.
33555 Pin Oak Parkway
Canton Lake, Ohio 44012

XP-36P

05094XP36P-5
April 4, 2005
Telephone (440) 933-9442
Emergency: (216) 973-6118

PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:

The following comprises the CHEMICAL IDENTIFICATION LIST

	<u>CAS #</u>
Sodium Polyphosphate	66913-31-1
Water	7732-18-5

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	<u>CAS #</u>
Sodium Polyphosphate	66913-31-1
Water	7732-18-5

CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that "clear and reasonable warning" be provided to any individual, knowingly or unintentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NONE

Material Safety Data Sheet



1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Page: 1

24-Hour Emergency Phone Number: 989-636-4400

Product: DOWEX* MONOSPHERE* 550A ANION EXCHANGE RESIN

Product Code: 01303

Effective Date: 01/30/02 Date Printed: 01/31/02 MSD: 001152

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

Styrene, divinylbenzene and
ethylstyrene copolymer, chloromethyl
trimethylamine functionalized in
the chloride form

CAS# 069011-19-4 20-65%

Water

CAS# 007732-18-5 35-80%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

* White to amber beads. Odorless to amine odor. Slipping hazard. *
* *

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight transient (temporary) eye irritation. Solid or dust may cause irritation or corneal injury due to mechanical action.

SKIN CONTACT: Prolonged or repeated exposure not likely to cause significant skin irritation. May cause more severe response if skin is abraded (scratched or cut). Skin absorption is unlikely due to physical properties.

INGESTION: Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.

INHALATION: No adverse effects are anticipated from inhalation.

(Continued on page 2 , over)

* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWEX* MONOSPHERE* 550A ANION EXCHANGE RESIN
Product Code: 01303

Effective Date: 01/30/02 Date Printed: 01/31/02 MSD: 001152

Vapors are unlikely due to physical properties.

SYSTEMIC & OTHER EFFECTS: No significant toxicologic effects were observed in laboratory animals fed this material in their diets for 1 month.

CANCER INFORMATION: No relevant information found.

TERATOLOGY (BIRTH DEFECTS): No relevant information found.

REPRODUCTIVE EFFECTS: No relevant information found.

4. FIRST AID

EYES: Flush eyes with plenty of water; remove contact lenses after the first 1-2 minutes then continue flushing for several minutes. Only mechanical effects expected.

SKIN: Wash off in flowing water or shower.

INGESTION: No emergency medical treatment necessary.

INHALATION: No emergency medical treatment necessary.

NOTE TO PHYSICIAN: No specific antidote. Supportive care.
Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLASH POINT: Not applicable

METHOD USED: Not applicable

FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to organic amines, nitrogen oxides, hydrogen chloride, hydrocarbons, carbon monoxide, benzene compounds and carbon dioxide.

OTHER FLAMMABILITY INFORMATION: This material does not burn.
In a fire situation, residue can burn.

(Continued on page 3)

* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWEX* MONOSPHERE* 550A ANION EXCHANGE RESIN
Product Code: 01303

Effective Date: 01/30/02

Date Printed: 01/31/02

MSD: 001152

EXTINGUISHING MEDIA: Water, carbon dioxide, dry chemical.

FIRE-FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Cool surroundings with water to localize fire zone. Soak thoroughly with water to cool and prevent re-ignition.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Pellets or beads may present a slipping hazard.

PROTECT THE ENVIRONMENT: Avoid contamination of all waterways.

CLEANUP: Sweep up. See Section 13, Disposal Considerations.

7. HANDLING AND STORAGE

HANDLING STATEMENTS: See Section 8, Exposure Controls/Personal Protection.

STORAGE STATEMENTS: Keep containers tightly closed when not in use. Store between 2-27C (35-80F).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions.

PERSONAL PROTECTIVE EQUIPMENT:

EYE/FACE PROTECTION: Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles.

SKIN PROTECTION: Use gloves impervious to this material when prolonged or frequently repeated contact could occur. If hands are cut or scratched, use gloves impervious to this material even for brief exposures.

(Continued on page 4 , over)

* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Conditions to avoid

Avoid extreme heat. Slow reaction with oxygen from the air is possible at room temperature.

Hazardous decomposition products

By catalytic influence or elevated temperatures: Hydrogen; Nitrogen; Ammonia; other toxic or flammable nitrogen compounds

11. Toxicological Information**Toxicity Data for HYDRAZINE 35% IBC****Acute dermal toxicity**

LD50: > 200 mg/kg (rabbit)

Skin Irritation

Irritating to skin.

Eye Irritation

Irritating to eyes.

Toxicity Data for Hydrazine**Acute Oral Toxicity**

LD50: 60 - 129 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: 4.2 mg/l, 1 hrs (Rat, Male/Female)

LC50: 570 ppm, 4 hrs (rat)

Acute dermal toxicity

LD50: 91 mg/kg (rabbit)

Skin Irritation

rabbit, Draize Test, Corrosive

rabbit, Draize, irritating

35% aqueous solution

rabbit, OECD Test Guideline 404, Non-irritating

5% aqueous solution

Eye Irritation

rabbit, Corrosive

rabbit, OECD Test Guideline 405, Non-irritating

5% aqueous solution

Sensitization

dermal: sensitizer (Human, Patch Test)

Repeated Dose Toxicity

6 months, inhalation: NOAEL: 1.31 mg/m3, LOAEL: 6.55 mg/m3, (Dog, male, 6 hrs/day 5 days/week)

Reduced body weight gain. Changes in blood parameters. Changes in: liver

lifetime, oral: NOAEL: 10 mg/l, (rat,)

Reduced body weight gain.

Mutagenicity

Genetic Toxicity in Vitro:

Ames: positive (Salmonella typhimurium, Metabolic Activation: with/without)

Positive and negative results were seen in various in vitro studies.

Genetic Toxicity in Vivo:

Dominant Lethal Assay: negative (mouse, Male, intraperitoneal)

Mouse Spot test: positive (mouse, Male/Female, intraperitoneal)

Positive and negative results were seen in various in vivo studies.

Carcinogenicity

Hydrazine was tested for carcinogenicity by oral administration to mice in several experiments, producing mammary and lung tumours. When tested by oral administration or inhalation exposure in rats, it produced lung, liver and nasal tumours and a few colon tumours. In hamsters, it produced liver tumours and thyroid adenomas following oral or inhalation exposure.

The cancer risk of men exposed to hydrazine was investigated in two small cohort studies. In neither of these studies was an elevated risk observed for all cancers combined or for any specific cancer type.

Toxicity to Reproduction/Fertility

Fertility Screening, inhalation, 5 hrs/day, 5 days/week, (Rat, Male/Female) NOAEL (F2): 0.85 mg/m³

Animal testing did not show any effects on fertility. Fetotoxicity has been observed in animal studies.

Developmental Toxicity/Teratogenicity

rat, Female, dermal, gestation, NOAEL (teratogenicity): 50 mg/kg, NOAEL (maternal): < 5 mg/kg,

Fetotoxicity seen only with maternal toxicity.

Rat, female, oral, gestation days 6-15, daily, NOAEL (teratogenicity): 10 mg/kg, NOAEL (maternal): 2.5 mg/kg,

Fetotoxicity seen only with maternal toxicity.

12. Ecological Information

Ecological Data for Hydrazine

Bioaccumulation

Guppy (*Poecilia reticulata*), Exposure time: 96 hrs, 316 BCF

Acute and Prolonged Toxicity to Fish

LC50: 1.08 mg/l (Bluegill (*Lepomis macrochirus*), 96 hrs)

LC50: 5.98 mg/l (Fathead minnow (*Pimephales promelas*), 96 hrs)

Acute Toxicity to Aquatic Invertebrates

EC50: 2.3 mg/l (Water flea (*Daphnia magna*), 24 hrs)

Toxicity to Aquatic Plants

EC50: 0.01 mg/l, End Point: growth (Green algae (*Chlorella pyrenoidosa*), 6 Days)

EC50: 0.0161 mg/l, End Point: growth (Green algae (*Selenastrum capricornutum*), 6 Days)

Toxicity to Microorganisms

EC50: 0.01 mg/l, (*Photobacterium phosphoreum*, 20 min)

Tlm: 0.019 mg/l, (*Pseudomonas putida*, 16 hrs)

13. Disposal considerations

Waste Disposal Method

Oxidize or incinerate in accordance with federal, state and local environmental control regulations.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Label precautions also apply to this container when empty. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

14. Transportation information**Land transport (DOT)**

Proper Shipping Name: Hydrazine, aqueous solution
Hazard Class or Division: 6.1
UN/NA Number: UN3293
Packaging Group: III
Hazard Label(s): Toxic

RSPA/DOT Regulated Components:

Hydrazine

Reportable Quantity: 2 lb

Sea transport (IMDG)

Proper Shipping Name: HYDRAZINE, AQUEOUS SOLUTION
Hazard Class or Division: 6.1
UN-No: UN3293
Packaging Group: III
Hazard Label(s): Toxic

Air transport (ICAO/IATA)

Proper Shipping Name: Hydrazine, aqueous solution
Hazard Class or Division: 6.1
UN-No: UN3293
Packaging Group: III
Hazard Label(s): Toxic

15. Regulatory Information**United States Federal Regulations**

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):

Components

Hydrazine Reportable quantity: 1 lbs

SARA Section 311/312 Hazard Categories:

Acute Health Hazard, Chronic Health Hazard, Reactivity Hazard

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):**

Components

Hydrazine

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:

Components

Hydrazine

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):

When discarded in its purchased form, this product is a listed RCRA hazardous waste and should be managed as a hazardous waste. (40 CFR 261.20-24), Any contaminated soil, water, debris, or residue resulting from the cleanup of a spill of this product is considered to be a hazardous waste.

RCRA Regulated Components

Hydrazine

U133

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
65%	Water	7732-18-5
35%	Hydrazine	302-01-2

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
35%	Hydrazine	302-01-2

Pennsylvania Right to Know Special Hazard Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
35%	Hydrazine	302-01-2

MA Right to Know Extraordinarily Hazardous Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
35%	Hydrazine	302-01-2

California Prop. 65:

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
35%	Hydrazine	302-01-2

16. Other Information**NFPA 704M Rating**

Health	2
Flammability	1
Reactivity	1
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	2*
Flammability	1
Physical Hazard	1

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

* = Chronic Health Hazard

LANXESS Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS Corporation as a customer service.

Contact Person: Product Safety Department
Telephone: (800) LANXESS
MSDS Number: R304509
Version Date: 06/01/2005
Report Version: 2.2

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|| Changes since the last version will be highlighted in the margin. This version replaces all previous versions.